

In the Claims

Claim 1 (previously presented): A method of forming a plurality of capacitor devices, comprising:

forming conductive capacitor electrode material within openings in a first material comprising silicon and oxygen;

providing a retaining structure in physical contact with at least some of the conductive capacitor electrode material, the retaining structure comprising a dielectric material, the dielectric material of the retaining structure comprising silicon and nitrogen;

removing at least some of the first material while the retaining structure physically contacts the at least some of the conductive capacitor electrode material;

after removing at least some of the first material, incorporating the conductive capacitor electrode material into a plurality of capacitor devices; and

wherein the first material is over the retaining structure.

Claim 2 (canceled).

Claim 3 (previously presented): The method of claim 1 wherein the conductive capacitor electrode material is formed within the openings in the shape of upwardly-opening container structures.

Claim 4 (previously presented): The method of claim 1 wherein the conductive capacitor electrode material fills the openings to form conductive pedestals within the openings.

Claim 5 (previously presented): The method of claim 1 wherein the first material consists of one or more electrically insulative materials.

Claims 6 and 7 (canceled).

Claim 8 (previously presented): The method of claim 1 wherein the first material comprises one or more of borophosphosilicate glass, spin-on-glass, silicon dioxide, phosphosilicate glass, borosilicate glass, and silicon nitride.

Claim 9 (previously presented): The method of claim 1 wherein the retaining structure comprises silicon nitride.

Claim 10 (original): The method of claim 9 wherein the silicon nitride has a thickness of from about 50Å to about 3000Å.

Claim 11 (previously presented): The method of claim 1 wherein the first material comprises borophosphosilicate glass and the retaining structure comprises silicon nitride.

Claim 12 (currently amended): A method of forming a plurality of capacitor devices, comprising:

forming conductive capacitor electrode material within openings in a first material comprising silicon and oxygen;

providing a retaining structure in physical contact with at least some of the conductive capacitor electrode material;

removing at least some of the first material while the retaining structure physically contacts the at least some of the conductive capacitor electrode material;

after removing at least some of the first material, incorporating the conductive capacitor electrode material into a plurality of capacitor devices;

wherein:

the first material comprises borophosphosilicate glass [::];

a wet etch is utilized to remove at least some of the first material; and

the retaining structure comprises silicon nitride and a material having increased selectivity to borophosphosilicate glass than silicon nitride during the wet etch.

Claim 13 (original): The method of claim 12 wherein the material having increased selectivity to borophosphosilicate glass than silicon nitride during the wet etch consists essentially of silicon.

Claim 14 (original): The method of claim 12 wherein the material having increased selectivity to borophosphosilicate glass than silicon nitride during the wet etch includes polycrystalline silicon.

Claim 15 (original): The method of claim 14 wherein the polycrystalline silicon is over the silicon nitride.

Claim 16 (original): The method of claim 15 wherein the polycrystalline silicon has a thickness of from about 50Å to about 1000Å.

Claim 17 (original): The method of claim 15 wherein the polycrystalline silicon has a thickness of from about 50Å to about 1000Å; and wherein the silicon nitride has a thickness of from about 50Å to about 3000Å.

Claim 18 (original): The method of claim 14 wherein the polycrystalline silicon is under the silicon nitride.

Claim 19 (original): The method of claim 14 wherein the polycrystalline silicon is over and under the silicon nitride.

Claim 20 (original): The method of claim 19 wherein the polycrystalline silicon below the silicon nitride has a thickness of from about 50Å to about 500Å; wherein the polycrystalline silicon above the silicon nitride has a thickness of from about 50Å to about 500Å; and wherein the silicon nitride has a thickness of from about 50Å to about 1000Å.

Claim 21 (original): The method of claim 14 wherein the polycrystalline silicon entirely surrounds the silicon nitride.

Claim 22 (canceled).

Claim 23 (previously presented): A method of forming a plurality of capacitor devices, comprising:

providing a construction comprising a first material over a substrate;

forming a retaining structure over at least a portion of the first material;

forming openings extending into the first material;

forming conductive structures within the openings utilizing a first conductive layer, the conductive structures having outer sidewalls along the first material;

removing at least some of the first material to expose at least portions of the outer sidewalls of the conductive structures, the retaining structure retaining the conductive structures during the removal of the first material;

forming a capacitor dielectric material along the exposed portions of the outer sidewalls;

forming a second conductive layer over the capacitor dielectric material;

wherein the retaining structure is formed before forming the openings; and

wherein the openings extend through the retaining structure.

Claim 24 (previously presented): The method of claim 23 wherein the conductive structures are container structures having openings extending therein, and wherein the dielectric material and second conductive layer are formed to extend within the openings that extend into the container structures.

Claim 25 (previously presented): The method of claim 23 wherein the conductive structures are pedestals.

Claim 26 (original): The method of claim 23 wherein the openings extend in an array comprising rows and columns; wherein the conductive structures are formed in the array defined by the openings and thus the conductive structures are within an array comprising rows and columns; and wherein the retaining structure is patterned to extend between and connect alternating pairs of the rows of the conductive structure array.

Claim 27 (original): The method of claim 23 wherein the retaining structure is a second retaining structure; and wherein a first retaining structure is formed prior to forming at least some of the first material.

Claim 28 (original): The method of claim 27 wherein a first portion of the first material is formed prior to forming the first retaining structure and a second portion of the first material is formed after forming the first retaining structure; and wherein the first retaining structure is patterned prior to forming the second portion of the first material so that some of the second portion of the first material is formed directly against the first retaining structure and some of the second portion of the first material is formed directly against the first portion of the first material.

Claim 29 (original): The method of claim 23 wherein the retaining structure is a second retaining structure; wherein a first retaining structure is formed prior to forming the first material; and wherein the first material is between the first and second retaining structures.

Claim 30 (canceled).

Claim 31 (previously presented): A method of forming a plurality of capacitor devices, comprising:

providing a construction comprising a first material over a substrate;

forming a retaining structure over at least a portion of the first material;

forming openings extending into the first material;

forming conductive structures within the openings utilizing a first conductive layer, the conductive structures having outer sidewalls along the first material;

removing at least some of the first material to expose at least portions of the outer sidewalls of the conductive structures, the retaining structure retaining the conductive structures during the removal of the first material;

forming a capacitor dielectric material along the exposed portions of the outer sidewalls;

forming a second conductive layer over the capacitor dielectric material; and

wherein:

the first material comprises borophosphosilicate glass;

an isotropic etch is utilized to remove at least some of the first material; and

the retaining structure comprises silicon nitride and a material having increased selectivity to borophosphosilicate glass than silicon nitride during the isotropic etch.

Claim 32 (original): The method of claim 31 wherein the material having increased selectivity to borophosphosilicate glass than silicon nitride during the isotropic etch consists essentially of silicon.

Claim 33 (original): The method of claim 31 wherein the material having increased selectivity to borophosphosilicate glass than silicon nitride during the isotropic etch includes polycrystalline silicon.

Claim 34 (original): The method of claim 33 wherein the polycrystalline silicon is over the silicon nitride.

Claim 35 (original): The method of claim 33 wherein the polycrystalline silicon is under the silicon nitride.

Claim 36 (original): The method of claim 33 wherein the polycrystalline silicon is over and under the silicon nitride.

Claim 37 (original): The method of claim 33 wherein the polycrystalline silicon entirely surrounds the silicon nitride.

Claim 38 (previously presented): The method of claim 33 further comprising removing the retaining structure from over the first material after forming the second conductive layer.

Claim 39 (original): A method of forming a plurality of capacitor devices, comprising:

providing a construction comprising a first material over a substrate;

forming openings extending into the first material; the openings extending in an array comprising rows and columns;

forming a first conductive layer within the openings, the first conductive layer within the openings forming container structures having outer sidewalls along the first material wherein the container structures are formed in the array defined by the openings and thus the container structures are within an array comprising rows and columns;

providing a retaining structure which extends between and connects alternating pairs of the rows of the container structure array, the retaining structure being directly against the first conductive layer of the container structures;

removing at least some of the first material to expose at least portions of the outer sidewalls of the container structures, the retaining structure retaining the container structures during the removal of the first material;

forming a capacitor dielectric material along the exposed portions of the outer sidewalls and within the container structures; and

forming a second conductive layer over the capacitor dielectric material.

Claim 40 (original): The method of claim 39 wherein the retaining structure is beneath the first material.

Claim 41 (original): The method of claim 39 wherein the retaining structure is over the first material.

Claim 42 (original): The method of claim 41 wherein the retaining structure is a second retaining structure; and wherein a first retaining structure is beneath at least some of the first material.

Claim 43 (original): The method of claim 39 wherein the first material comprises one or more of borophosphosilicate glass, spin-on-glass, silicon dioxide, phosphosilicate glass, borosilicate glass, and silicon nitride.

Claim 44 (original): The method of claim 39 wherein the retaining structure comprises silicon nitride.

Claim 45 (original): The method of claim 44 wherein the silicon nitride has a thickness of from about 50Å to about 3000Å.

Claim 46 (original): The method of claim 39 wherein the first material comprises borophosphosilicate glass and the retaining structure comprises silicon nitride.

Claim 47 (original): The method of claim 39 wherein the first material comprises borophosphosilicate glass, wherein a wet etch is utilized to remove at least some of the first material; and wherein the retaining structure comprises silicon nitride and a material having increased selectivity to borophosphosilicate glass than silicon nitride during the wet etch.

Claim 48 (original): The method of claim 47 wherein the material having increased selectivity to borophosphosilicate glass than silicon nitride during the wet etch is a silicon-containing material.

Claim 49 (original): The method of claim 48 wherein the silicon-containing material is over the silicon nitride.

Claim 50 (original): The method of claim 49 wherein the silicon-containing material has a thickness of from about 50Å to about 1000Å.

Claim 51 (original): The method of claim 49 wherein the silicon-containing material has a thickness of from about 50Å to about 1000Å; and wherein the silicon nitride has a thickness of from about 50Å to about 3000Å.

Claim 52 (original): The method of claim 48 wherein the silicon-containing material is under the silicon nitride.

Claim 53 (original): The method of claim 48 wherein the silicon-containing material is over and under the silicon nitride.

Claim 54 (original): The method of claim 53 wherein the silicon-containing material below the silicon nitride has a thickness of from about 50Å to about 500Å; wherein the silicon-

containing material above the silicon nitride has a thickness of from about 50Å to about 500Å; and wherein the silicon nitride has a thickness of from about 50Å to about 1000Å.

Claim 55 (original): The method of claim 48 wherein the silicon-containing material entirely surrounds the silicon nitride.

Claim 56 (original): A method of forming a plurality of capacitor devices, comprising:
providing a construction comprising a memory array region, a region other than the memory array region and a location between the memory array region and said other region;

forming a first material extending over the memory array region, over said other region, and over the location between the memory array region and said other region;

forming a second material over at least a portion of the first material that is over the memory array region and over an entirety of the first material that is over said other region;

forming openings extending into the first material over the memory array region and forming a trench within the first material over the location between the memory array region and said other region;

forming a first conductive layer within the openings and within the trench, the first conductive layer within the openings forming container structures having outer sidewalls along the first material;

after forming the first conductive layer and the second material, removing at least some of the first material to expose at least portions of the outer sidewalls of the container structures;

forming a capacitor dielectric material along the exposed portions of the outer sidewalls and within the container structures; and
forming a second conductive layer over the capacitor dielectric material.

Claim 57 (original): The method of claim 56 wherein the second material comprises silicon nitride.

Claim 58 (original): The method of claim 57 wherein the second conductive layer and the dielectric material are formed over the second material.

Claim 59 (original): The method of claim 56 wherein the first material comprises borophosphosilicate glass; wherein an isotropic etch is utilized to remove the at least some of the first material; wherein the second material is incorporated into a retaining structure comprising the second material and a third material; wherein the second material comprises silicon nitride; and wherein the third material has increased selectivity to borophosphosilicate glass than does silicon nitride during the isotropic etch.

Claim 60 (original): The method of claim 59 wherein the third material comprises one or both of amorphous silicon and polycrystalline silicon.

Claim 61 (original): The method of claim 59 wherein the third material is over the silicon nitride.

Claim 62 (original): The method of claim 59 wherein the third material is under the silicon nitride.

Claim 63 (original): The method of claim 59 wherein the third material is over and under the silicon nitride.

Claim 64 (original): The method of claim 56 wherein the first conductive layer comprises titanium nitride.

Claims 65-91 (canceled).